AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method for manufacturing a shallow trench isolation (STI) in a semiconductor device, the method comprising the steps of:

a) preparing a semiconductor substrate obtained by a predetermined process on which a pad oxide and a pad nitride are formed on predetermined locations thereof;

b) forming an isolation trench with a predetermined depth in the semiconductor substrate;

c) forming a wall oxide on the trench;

d) forming a liner oxide on the wall oxide and an exposed surface of the pad nitride;

e) carrying out a nitridation process for forming a nitrided oxide;

f) forming an insulating layer over the resultant structure, wherein the isolation trench is filled with the insulating layer; and

g) planarizing a top face of the insulating layer,

wherein the step e) is carried out in at least one of an annealing furnace and a rapid thermal process (RTP) by using a nitrogen-containing gas selected from the group consisting of N_2O, NO and NH_3, thereby forming the nitrided oxide between the liner oxide and the wall oxide.

2. (Cancelled)

3. (Currently Amended) The method as recited in claim 1~~2~~, wherein the step e) is carried out by using NO gas as a source gas at a temperature in a range of about 750° C to about 850° C.

4. (Currently Amended) The method as recited in claim 1~~2~~, wherein the step e) is carried out by using NH_3 gas as a source gas at a temperature in a range of about 750° C to about 850° C.

5. (Currently Amended) The method as recited in claim 1~~2~~, wherein the step e) is carried out by using N_2O gas as a source gas at a temperature in a range of about 800° C to about 950° C.

6. (Original) The method as recited in claim 1, wherein the step e) is carried out by using a plasma process, thereby forming the nitrided oxide on the liner oxide.

7. (Original) The method as recited in claim 6, wherein the step e) is carried out by using a remote plasma nitridation (RPN).

8. (Original) The method as recited in claim 7, wherein the step e) is carried out by using an N_2 gas diluted with helium (He) as the source gas at the temperature in the range of about 550° C to about 900° C.

9. (Original) The method as recited in claim 6, wherein the step e) is carried out by using a radial line slot antenna (RLSA)

10. (Original) The method as recited in claim 9, wherein the step e) is carried out by using a mixture gas of an argon gas, an N_2 gas and an O_2 gas as the source gas at the temperature in the range of about 150° C to about 600° C.

11. (Original) The method as recited in claim 1, wherein the step d) is carried out by repeating a chemical vapor deposition (CVD) process for forming a plurality of interfaces on the wall oxide.

12. (Original) The method as recited in claim 1, wherein the step c) is carried out by using dry oxidation process on condition that a process temperature is in the range of about 850° C to about 950° C and a chlorine gas is supplied with amount in the range of about 0.1 % to about 10 %.

13. (Original) The method as recited in claim 1, wherein the step f) is carried out by using a material selected from the group consisting of a high density plasma (HDP) oxide, an advanced planarized layer (APL) and a spin on dielectric (SOD).

14. (Currently Amended) A method for manufacturing an STI in a semiconductor device, the method comprising the steps of:

a) preparing a semiconductor substrate obtained by a predetermined process on which a pad oxide and a pad nitride are formed on predetermined locations thereof;

b) forming an isolation trench with a predetermined depth in the semiconductor substrate;

c) forming a wall oxide on the trench;

d) carrying out a nitridation process for forming a nitrided oxide on the wall oxide;

e) forming a liner oxide on the nitrided oxide;

f) forming an insulating layer over the resultant structure, wherein the isolation trench is filled with the insulating layer; and

g) planarizing a top face of the insulating layer,

wherein the step d) is carried out in at least one of an annealing furnace and a rapid thermal process (RTP) by using a nitrogen-containing gas selected from the group consisting of N_2O, NO and NH_3.

15. (Original) The method as recited in claim 14, wherein the step d) is carried out by using an RPN.

16. (Original) The method as recited in claim 15, wherein the step d) is carried out by using an N_2 gas diluted with helium (He) as the source gas at the temperature in the range of about 550° C to about 900° C.

17. (Original) The method as recited in claim 14, wherein the step d) is carried out by using an RLSA.

18. (Original) The method as recited in claim 17, wherein the step d) is carried out by using a mixture gas of an argon

gas, an N_2 gas and an O_2 gas as the source gas at the temperature in the range of about 150° C to about 600° C.

19. (Original) The method as recited in claim 14, wherein the step c) is carried out by using dry oxidation process on condition that a process temperature is in the range of about 850° C to about 950° C and a chlorine gas is supplied with amount in the range of about 0.1 % to about 10 %.

20. (Original) The method as recited in claim 14, wherein the step f) is carried out by using a material selected from the group consisting of an HDP oxide, an APL and an SOD.